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ABSTRACT

This guide is designed to give the student helpful information about Arizona's Instrument To Measure the Standards (AIMS) for high school. The guide provides examples of the type of questions students see on AIMS and explains how items are scored. It does not teach what the student needs to know to do well on AIMS, but it will help the student know what to expect. AIMS consists of multiple choice, short-answer, and extended writing questions. Some test-taking strategies are outlined, and descriptions are given of the reading, writing, and mathematics tests. Appendixes contain the scoring keys for the sample test items included for each area, the writing rubric, the AIMS mathematics reference sheet, and a review of test taking strategies. (SLD)

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ED 452 255

High School Student Guide to AIMS

Arizona's Instrument to Measure Standards

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STUDENT GUIDE

for

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS

Arizona Department of Education
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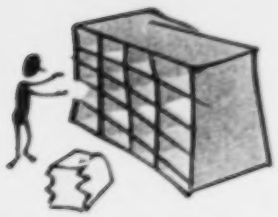
Revised June, 1999

The sample items in this publication were developed in conjunction with CTB/McGraw-Hill, a division of the Education and Professional Publishing Group of the McGraw-Hill Companies, Inc., and NCS Custom Item Development. The reading passages, test items, and scoring guides in this publication are representative only and should not be interpreted as exact duplicates of the passages and items that may appear on AIMS exams, nor the scoring guides used to score them. Authority for final approval of all test items and testing materials rests with the Arizona Department of Education.



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You CAN Do It!

Questions about AIMS

The purpose of this Student Guide to AIMS is to give you helpful information about the high school exit level assessment (Arizona's Instrument to Measure Standards), which you must pass in order to complete the state's high school graduation requirements and earn an Arizona high school diploma. This guide will help you understand how the standards will be tested, familiarize you with the types of questions you will be asked, and explain how your responses will be scored. **Please note that that this guide is formatted specifically to save space and does not represent the actual formatting used in AIMS.**

What is AIMS?

Arizona's Instrument to Measure Standards (AIMS) measures your achievement of the Arizona Academic Standards adopted by the State Board of Education in three subject areas: Reading, Writing, and Mathematics.

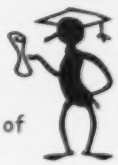
What subjects are tested on AIMS?

Reading, Writing, and Mathematics will be tested with one test for Reading, one for Writing, and one for Mathematics covering six areas: Number Sense, Logic, Algebra, Geometry, Data Analysis and Probability, and Measurement. You must pass **all** three tests before you can receive your diploma.

Who has to take AIMS?

All students will take AIMS in grades 3, 5, 8 and in high school. The high school level test will be one of the requirements for a diploma beginning with the class of 2002. These requirements may be modified or adapted for some special needs students. Talk to your teacher to find out if this applies to you.

When will I take AIMS in high school?



You will take the tests for the first time in the spring of your sophomore year. You must retake those tests you do not pass each time the test is given (once each semester). If you do not pass any one of the three tests, you will have the opportunity to retake **the tests you did not pass** in the fall and/or spring of your junior year, and in the fall and/or spring of your senior year. There will be **no** retesting in fall, 1999.

What will be tested on AIMS?

Copies of the Arizona Standards and Performance Objectives were sent home to your parents in a newsprint format. Test items were written to measure specifically the Standards and Performance Objectives described in that document. The Standards remain consistent from kindergarten to twelfth grade representing skills you have been learning since you started school. Although every Standard in Math, Reading, and Writing is assessed each time AIMS is given, different Performance Objectives are tested on different forms of the tests. Therefore, you need to be prepared for all Standards and Performance Objectives.

How can I use this guide to prepare for AIMS?

This guide is divided into the three subject areas tested on AIMS. It includes the Standards for each area that you are expected to know, a short explanation of each testing format, hints for test taking, sample test questions, and a scoring guide for written responses. It will NOT TEACH you what you should know and be able to do to score well on the tests, but it will help you become familiar with the tests. Knowing what to expect will help you be successful.

How can I prepare for AIMS?

- Attend school regularly; you miss out if you are not there!
- Thoroughly read and be familiar with the "Arizona's Academic Standards" document so that you understand what you are expected to know and be able to do.
- Ask questions and seek help if you do not understand this guide, the Standards document or your schoolwork.
- Select classes wisely to be sure you are getting the instruction you need.
- Take charge of your own learning! Monitor your progress. Self-assess what you know, what you can do well, and where you need to improve.
- Participate in class.
- Have a scheduled time and place to do homework and to study.

Where can I find out more about Arizona state guidelines for AIMS?

The Arizona Department of Education website: http://www.ade.state.az.us

Types of Items

Three basic types of items will be used on AIMS and are explained below.

Multiple Choice

Multiple choice items will ask you to select the best response from four possible answer choices and indicate your choice by bubbling in the corresponding letter on an answer sheet. Although some responses will require a recall of facts, or the computation of a correct answer, many of the items require higher level thinking. Each multiple choice item is scored correct (1 point) or incorrect (0 points) and contributes one point to the overall score. You will find these types of questions on the Reading, Writing, and Math tests.

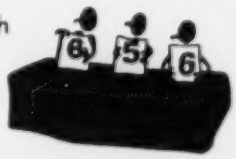
Short Answer

Short answer items will require you to write your own answer and could be anything from a few words, a phrase, or an equation, to a few paragraphs. Many of these items will ask you for an answer and then ask you to explain why, supporting your answer with reasons or examples from the text, or providing justification for your answer. In the Math test, you will need to show your work in the detailed steps you used to solve the problem in order to earn full credit. Student responses on short answer items will be given 0, 1, 2, or 3 points based on a scoring guide (a rubric) developed for each specific item. A response is scored based on the quality and completeness of your response. You will find these short answer items on the Reading, Writing, and Math tests.

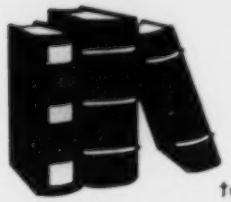
Extended Response

The extended response item will ask you to respond to a prompt, which might include writing a letter, an essay, or a narrative. These responses will require a well-developed and well-organized presentation of ideas that follow a particular format suitable to the purpose and audience. You will be expected to develop your written response by following the steps in the writing process: prewriting, drafting, revising, editing, and producing a final copy. You will be provided with a revision checklist to guide your work. Your finished copy, not your prewriting or rough draft, will be scored using a six point rubric that scores each trait or characteristic of effective writing. The rubric for this type of item is provided in the Appendix B of this guide on page 31. You will find this type of question on the Writing test only.

Scoring Short and Extended Writing Responses



This is where your written communication skills become so important. Although the rubrics used for scoring are flexible enough to allow for your own unique and creative response, your written response still needs to be thoughtful and appropriate for the audience and purpose. *"How long does it have to be?"* you may ask. In these types of questions, students will sometimes offer a very limited, or minimal, written response (for example, a few words when complete sentences or fully developed paragraphs are needed). The reader is left to guess what you mean. Partial answers that do not fully answer the question will only earn partial credit. Responses that are off the topic, too brief to score, profane, or illegible, will be considered non-scorable and earn 0 points.



READING

Reading is fundamental to all learning and we are lifelong learners. It can open our minds to people, places, and ideas beyond our own experiences. It gives us the knowledge we need to make informed choices as responsible citizens in a democratic society. One need only browse the Internet to realize how much information is available to us at our fingertips. Understanding what we read, using the wealth of information available to us, and thinking critically about what we read, are crucial skills to function successfully in today's world.

About the Test

On AIMS, you will be given several passages to read, both fiction and non-fiction. You may be given informational text to read; for example, labels and pages from manuals. The questions will assess your ability to understand, interpret, and analyze what you have read. Both multiple choice and short answer responses will be included. There are approximately 40 items on the reading test which should be completed in 1-2 hours. One sample passage is provided here, followed by a set of questions. Reading this passage and answering the questions may help you prepare for the test.

READING STANDARD: PROFICIENCY LEVEL

Students learn and effectively apply a variety of reading strategies for comprehending, interpreting, and evaluating a wide range of texts including fiction, nonfiction, classic, and contemporary works.

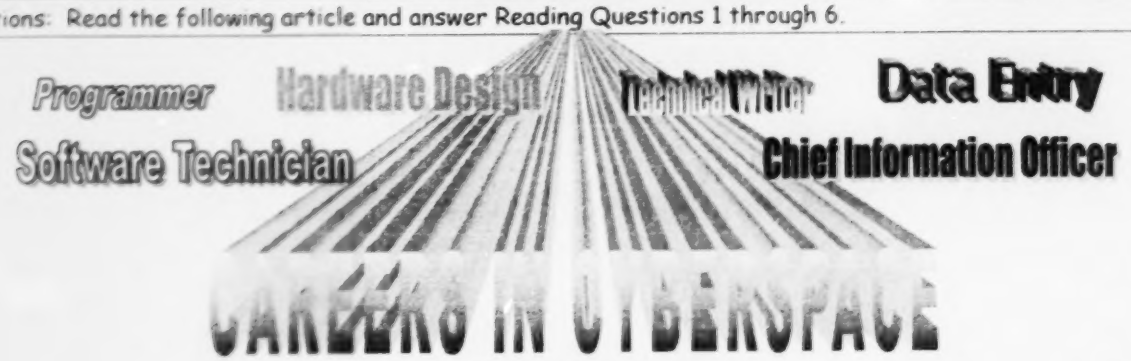
RP 1: Apply reading strategies such as extracting, summarizing, clarifying, and interpreting information; predicting events and extending the ideas presented; relating new information to prior knowledge; supporting assertions with evidence; and making useful connections to other topics to comprehend works of literature and documents.
RP 2: Recognize, analyze and evaluate an author's use of literary elements such as mood, tone, theme, point of view, diction, dialogue and figurative language (metaphors, allusions, symbolism, similes) in selections of challenging fiction, nonfiction, and poetry.
RP 3: Evaluate the author's persuasive techniques in written selections such as editorials, essays, reviews, and critiques.
RP 4: Evaluate technical journals or workplace documents for purpose, organizational pattern, clarity, reliability, accuracy, and relevancy of information.
RP 5: Analyze classic and contemporary literature selections, drawn from American and world literature, for the universality of themes such as the individual's role in society, interdependence, and the interaction between man and nature.

HINTS FOR TAKING AIMS-READING

- You will be asked to read different types of fiction and non-fiction. Adjust your reading to your purpose. Read each passage and the accompanying questions carefully.
- In multiple choice questions, choose the **best** response to the question. In short answers, be sure to answer the question **clearly** and **completely**. Be aware of your audience; be sure that your answer is adequately explained for the reader. For example, if asked to cite an example or support your answer from the text, specify clearly what the example is. An incomplete response will earn partial or no credit.
- Think about each question before you respond. In short answer questions, give yourself time to organize your thoughts before you begin writing your response.
- Manage your time so that you won't feel rushed answering questions that require a detailed response. Again, this is not a timed test, but you do want to use your time well.

Sample Reading Article

Directions: Read the following article and answer Reading Questions 1 through 6.



By Mary Anne Shew

While the information technology industry has never lacked jobs for qualified people, the recent explosion in the popularity of the Internet has created a demand that will last well into the next century. And the opportunities to join this field have never been better.

Let's Start With The Basics

Computer careers can be loosely organized around the three main components of any computer system: the hardware, the software, and the human who uses them. Hardware refers to the physical, tangible pieces of a computer such as the monitor, printer, central processing unit (CPU), and the circuitry that wires it all together. The reason that it's called "hardware" is because once it's been created, it's difficult (and often expensive) to change it physically. Software, on the other hand, is just another kind of human language (programming) and resides with the computer as electrical impulses. If you want the software to do something different from what it was doing, you just update the programming, which resets those impulses and activates the change. Therefore, software is very flexible, or "soft."

Supporting the human who is using the computer hardware and software is one of the most significant challenges of our time. In the early days, very few people had access to a computer, and it required much training and practice to be successful, including a degree in electrical engineering or another related discipline. The equipment and the software that went into those early computers were extremely expensive, and companies limited computer usage to those who were thoroughly trained. In comparison, today's computers are everywhere, and one need not understand programming to use one. But often, user manuals, online tutorials, and classroom training provide an understanding that can be time-consuming to reach on one's own. A huge industry in technical writing, training, and user interface development has sprung up to help people make the most of their computers. So, no matter whether your interest lies in working with things (like hardware), with people, or somewhere in between (like software), there is probably a corner of cyberspace that you can make your own.

Hardware

In the area of hardware, the jobs with the best future are those centered on design and development of new equipment and improvements to older models. Hardware design positions usually require a bachelor of science degree in electrical engineering or a similar background. A position that does not require a four-year degree is that of Technician, which includes hardware repair, installation, and upgrades such as replacing a hard disk of one size with a larger one. There are many other jobs associated with manufacturing computers, but most of the assembly lines are in non-U.S. locations.

Software

Software continues to be a major growth industry, and unlike hardware, quite often what you know is more important than how you got that knowledge. Credentials like a college degree or certification from a major software vendor are certainly welcome and add to your employability, but the field is changing so quickly that your own initiative is the only way to keep up with such software innovations as Java, Netscape, and the exciting things happening in multimedia.

Some Other Cyberspace Jobs

Data entry: This is a modern-day version of the *typing pool* in which you type in data, often from a form, into a computer for subsequent processing. The insurance and medical industries are heavily reliant on paperwork that must be entered into computers for billing and payment processing.

Programmer: This person writes the instructions (software) that tell a computer exactly what to do. The most popular programming languages are C, C++, Unix, Java, and HTML (hypertext markup language).

System designer: This person determines how the networks, software, and databases must be set up to meet customer needs. If working with people is more along your line, there are many jobs that lean more heavily on people skills than technical skills. One such job is **Technical Support**. Many companies now have *help desks*, where people using computers can call to get questions answered and problems resolved. This kind of job requires some basic training, often provided by the company.

Computer sales representatives are those friendly people who answer your questions in computer stores and help you figure which computer is right for you.

Technical writers meet the challenge of translating *techno-babble* into terms that anyone can understand. Their work can result in everything from user manuals to Web pages to systems documentation.

With more experience, you have more career options. You might be interested in jobs that bridge the technical world of bits and bytes with the business world of finances and products.

Systems managers oversee groups that develop, install, and maintain software. The most senior manager in the information systems part of a company is the chief information officer. He or she is responsible for delivering cost-effective systems that support the business properly.

As with much of the future, it is impossible to predict anything with complete certainty. However, computers are here to stay, in forms not yet even dreamed of (except maybe in *Star Trek*). And there will always be a need for people to make it happen—in cyberspace.

"Careers in Cyberspace" by Mary Anne Shew, published in *blue jean* Magazine's May/ June issue, copyright 1997 by Mary Anne Shew. Used with permission of the author.

SAMPLE QUESTIONS -READING

Text: Careers in Cyberspace

Question #1 (assesses concept R-P4/PO3 - evaluate information):

What is the main purpose of this article?

- **A** to discuss various kinds of computers
- **B** to explain the jobs of technical writers
- **C** to identify jobs in the computer industry
- **D** to show the different kinds of hardware and software

Question #2 (assesses concept R-P1/PO4 - make extension based on evidence presented in the text):

How would you define *cyberspace*?

- **A** It is the realm of computer communication.
- **B** It is the hardware that goes into making computers.
- **C** It is the part of the computer in which the software resides.
- **D** It is the software that resides within the computer as electrical impulses.

Question #3 (assesses concept R-P1/PO3 - make predictions based on evidence presented):

Given the information in this article, what is probably the future of computers?

- **A** They will become more sophisticated.
- **B** They will require fewer computer industry employees.
- **C** They will become obsolete.
- **D** They will require federal regulation for their future use.

Question #4 (assesses concept R-P4/PO1 - critique consistency and clarity of purpose):

The information in this article would most likely help readers to

- **A** learn about specific job openings in the information technology field.
- **B** understand how computer hardware and software work together
- **C** find out if they have the background for a career in computing.
- **D** identify different careers offered in the information technology field.

Question #5 (assesses concept R-P1/PO2 - summarize the main points):

Do you need a college education to get a job working with computers? Explain your answer using information from the article.

Question #6 (assesses concept R-P4/PO2 - critique effectiveness of organizational pattern):

What is an advantage to the reader of having the article organized into sections? Support your answer with an example from the article.

Answer key is on page 26

Writing Skills

Writing is a critical skill in effective communication. Whether you are writing an e-mail message, a personal letter, an ad for your business, or a formal report for school or work, being able to express your ideas clearly to your audience is important. But becoming a good writer is not easy. It takes effort and the development of a variety of skills: clear ideas, organization, a voice that holds the interest of your audience, and a consistent control of language, including word choice, sentence structure, and conventions (spelling, grammar, punctuation). With new technology, it is possible to electronically communicate in writing with people all over the world in a matter of minutes. Writing will continue to be a communication skill that is required in most professions and workplaces. Acquiring effective written communication skills will enhance both your personal and professional opportunities.

About the Test

Questions in AIMS-Writing will require both multiple choice and short answer responses. You will also be asked to write one extended writing piece on a specific topic. This writing test will be completed in one session, so all steps in the writing process, including revising and editing, and a final copy will be done in that one session. The test has approximately 40 items and one extended writing response and should take approximately 2-3 hours to complete. Sample questions are provided on the next few pages. There is also an example of a prompt (writing topic) and scored student responses to this prompt.

WRITING STANDARDS: PROFICIENCY LEVEL

Students effectively use written language for a variety of purposes and with a variety of audiences.

WP1: Use transitional devices; varied sentence structures; the active voice; parallel structures; supporting details, phrases and clauses; and correct spelling, punctuation, capitalization, grammar and usage to sharpen the focus and clarify the meaning of their writings.

WP2: Write a persuasive essay (e.g., editorials, reviews, essays, critiques) that contains effective introductory and summary statements; arranges the arguments effectively; and fully develops the ideas with convincing proof, details, facts, examples and descriptions.

WP3: Write an analysis of an author's use of literary elements such as character, setting, theme, plot, figurative language, and point of view.

WP4: Craft a cohesive research document that develops a logical argument or thesis; contains comprehensive, supporting information from a variety of credible and cited sources; and conforms to a style manual.

WP5: Write formal communications, such as a resume, manuals, and letters of application, in appropriate formats, for a definite audience and with a clear purpose.

WP6: Write a narrative or story that develops complex characters, plot structures, point of view and setting; organizes ideas in meaningful sequence; and includes sensory details and concrete language to advance the story line.

HINTS FOR TAKING AIMS-WRITING

- Listen to directions and read each question carefully. Remember what you have learned about the writing process as you work through the questions. Think about each question. What is the question asking you to do? This is your task (or purpose) for writing. Take time to organize your thoughts before you begin to write. For longer responses and for the extended writing prompt, you may want to create a graphic organizer (outline, web, chart, mapping, clustering etc.) to plan and organize your ideas.
- In a short answer, be sure to answer the question clearly, completely, and thoroughly. Keep your audience in mind. Don't assume your audience (the reader) will know what you mean; you need to explain your ideas with adequate details. An incomplete response will only earn you partial or no credit.
- After you complete your draft on the extended writing prompt, you will be provided with a checklist to help you revise your work. Take advantage of this checklist to refine the content of your writing and ensure that it says what you want it to say. Keep in mind the traits (qualities) of effective writing.
- Edit your writing carefully. Your audience (the reader) needs to be able to understand the ideas you are expressing without being hindered by spelling, punctuation, and grammar mistakes that interfere with the message. **Be sure your handwriting is legible.**
- In real life writing situations, you may have more time to revise and edit your work, perhaps getting input from others before writing a final copy. In a testing situation, this is not possible. Therefore, you will need to make the best use of the time and skills you have to complete this writing task in one sitting.

7

SAMPLE QUESTIONS - WRITING

Question #1 (assesses standard W-P1/PO1 - use transitions where appropriate):

Read the sentence below.

He knew very little about the subject,_____ the instructor did not provide much help.

Which word best fills in the blank?

- **A** and
- **B** so
- **C** therefore
- **D** when

Question #2 (assesses standard W-P4/PO4 - follow the guidelines of a style manual)

The style manual Rachel uses notes that the words *school*, *college*, and *university* are capitalized only when used as part of a specific, proper name.

Identify the correct sentence.

- **A** I am applying to Arizona Western college and Yavapai Community college.
- **B** My brother attends the University of Arizona in Tucson.
- **C** Kate plans to study marketing at a Business School or University.
- **D** Jeff is considering several options after graduation: a technical school, a Community College, or a State University.

Question #3 (assesses standard WP-5/PO1 - establish a clear purpose for a specific audience):

A résumé is written for

- **A** a classmate.
- **B** an employee.
- **C** an employer.
- **D** a teacher.

Question #4 (assesses standard WP1/ PO5 - grammar/clarify meaning through appropriate word usage):

Read the sentence below.

Before the group went to the movies, they _____ out to dinner.

Which correctly fills in the blank?

- **A** go
- **B** will go
- **C** had gone
- **D** were going

Answer key is on page 27

Question #5 (assesses standard W-P4/PO3 - Support a statement using accurate sources.)

Read the sentences.

- **The saguaro is the largest cactus in Arizona.**
- **The saguaro is the largest cactus on Kim's property.**

In one or two sentences, explain which of the sentences above will more likely require documentation.

_____

_____

_____

Question #6 (assesses standard WP5/PO1 - formal communication)

You are a high school senior and want to continue your education next fall. Write a letter to the school of your choice requesting admissions information. Your letter should have three paragraphs and include the following information:

- Your major area of academic interest (e.g., engineering, history, mathematics)
- Why you want to attend this specific college
- How the college will benefit you

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About Extended Writing Responses

On the Writing test, you will be given a task, called a prompt, (for example, write a business letter, a persuasive essay, a narrative) with specific directions regarding audience and purpose. A sample prompt and the standard it assesses are stated below. The official scoring guide (rubric) is located in Appendix B, and samples of three student responses are provided on the following pages. Here are some suggestions to help you understand the expectations for this writing response and help you prepare to take the writing section of AIMS: .

- Read the prompt below. Be sure you understand the purpose, the task, and the standard being assessed.
- Review the Official Scoring Guide (Rubric). Your paper will be scored on a 1-6 point scale, with 1 the lowest and 6 the highest, for each trait (characteristic) of effective writing.

- Read the student responses to the prompt. Note strengths and weaknesses in the paper as you read. Does the writer accomplish the task? Is the writer's message clear? Are the ideas supported with convincing evidence and support? Are the ideas organized so that you can logically follow them? Is the voice appropriate? Did the writer carefully choose words that are clear and convincing? Do the sentences have a natural flow? Is the paper carefully edited?
- Examine the score sheets for these three sample papers. Compare the scores and the comments to the rubric. This will give you an idea of what the points on the scale actually look like.
- Discuss with other students and your teacher why one paper is stronger or more convincing than another.
- Practice writing a persuasive response to this sample prompt. Score your own paper using the rubric to determine what your strengths are, and work on areas you need to improve to be a more effective writer.

Sample Prompt: People are always looking for ways to improve schools, and some of the best ideas come from students. Think of ONE change you could propose that would make your school better. Write an essay that would CONVINCE other students and teachers in your school to agree with you.

(assesses concept W-P2 - write a persuasive essay that contains effective introductory and summary statements; arranges the arguments effectively; and fully develops ideas with convincing proof, details, facts, examples, and descriptions. It contains a thesis statement to convey a point of view; develops a point of view with ample support and details appropriate to audience and purpose; contains an organizational structure that includes a beginning, middle and end; uses persuasive word choice and sentence structure.)

Having a Separate Middle School

Each day students in grades seven through twelve roam the halls of our high school. They function as a large group, and sometimes that isn't always easy for either upper or underclassmen, because of crowding and class arrangements. What can solve this predicament? Grades five through eight should be combined and made separate from the high school.

Some people may feel that these students in grades five through eight would miss a chance to be around older people to see as models and learn from. This is a definite loss, but they would make up for that by having the advantage of being able to control what rules and policies would affect them and they would have a smaller group to work with.

Anyone who has walked the halls of our high school will agree that after the bell there is "bumper to bumper pile up" in the halls getting to each class. Providing a middle school would enable both the older and younger students to have their own class, lunch and break times. Undoubtedly, cutting down on the "traffic jam" and making these breaks and class times more enjoyable for students during the school day.

The question now may be where would the money come from to expand, pay new teachers, and get new facilities? The money required would be less, due to the fact that we already have five teachers and most of the resources needed to teach these fifth-eighth students. The money is worth spending because it would guide students in enjoyable learning environment.

Some people think that having a separate middle school may make middle school students feel less involved with the whole school's activities. This would be a minor problem, because the middle school has already got it's own sports programs. The students could be building their own government, they could learn more about "leadership" and responsibility to others. This government would also produce middle school representatives who could get many more of the younger students ideas across to the older students in a more effective way. In turn the middle school students would have an advantage in leadership skills, while working their way to high school. Having these activities should improve learning abilities and the desire to work on their own grade.

We should provide a new, separate learning time for grades five through eight. Having their own middle school would give them the time they need to gain confidence and learning skills needed as they progress through high school and on into the future.

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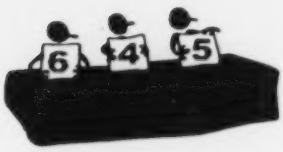

Score Sheet for Writing Sample 1

Title: Having a Separate Middle School

(This IS an acceptable response.)

Ideas and Content	Organization	Voice
6 5 (4) 3 2 1	6 5 (4) 3 2 1	6 5 (4) 3 2 1

Word Choice	Sentence Fluency	Conventions
6 (5) 4 3 2 1	6 5 (4) 3 2 1	6 5 4 (3) 2 1

NOTE: The underlined passages are taken from the official writing-scoring guide.

Ideas and Content: This paper scored a 4 in ideas and content. The writing is clear and focused: *Grades five through eight should be combined and made separate from the high school.* Supporting details are relevant but overly general or limited in places: *The money required to pay teachers and get new resources would be less due to the fact that we already have two teachers and most of the resources needed to teach these particular students. The money that would be spent is worth spending because it would give students an enjoyable learning environment.* The topic is explored; however, developmental details are out of balance. Much emphasis is placed on educational and social benefits; little in-depth attention is placed on practical issues of facilities and fiscal impact.

Organization: This paper scored a 4 in organization. Order and structure are present but seem formulaic. A developed beginning provides background to the issue and clarifies the position of the writer. Reasons supporting particular points of view are presented and followed by reasons supporting counter points of view. Transitions between paragraphs are sometimes weak. The piece ends with a strong statement summarizing the best supporting argument: *Having their own middle school environment would give them the time they need to gain the confidence and learning skills needed as they progress through high school and on into the future.*

Voice: This paper scored a 4 in voice. The writer demonstrates commitment to the topic but is somewhat stiff at times: *In turn the middle school students would have an advantage in leadership skills...Having these activities should improve learning abilities and the desire to work in their own units.*

Word Choice: This paper scored a 5 in word choice. Vocabulary is striking and varied but not overdone: *...after the bell there is a bumper-to-bumper pile-up in the halls...* Words are accurate and specific and seem carefully chosen: *The students could be building their own government and in doing this, they could feel even more independent.*

Sentence Fluency: This paper scored a 4 in sentence fluency. There is strong control over simple sentence structures but variable control over more complex sentences: *This is a definite loss, but they would make up for this by having the advantage of being able to control what rules and policies would affect them and they would have a smaller group to work with. In turn the middle school students would have an advantage in leadership skills, while working their way to high school.* At one point a fragment detracts from the natural flow of the piece: *Undoubtedly cutting down on the traffic jam and making these breaks and class times more enjoyable for students during the school day.*

Conventions: This paper scored a high 3 in conventions. The writing demonstrates limited control of standard writing conventions. Strengths include correct spelling and appropriate use of question marks and hyphenated words. There are several errors involving plurals and possessives: *This would be a minor problem, because the middle school has already got it's own sports programs. This government would also produce middle school representatives who could get many more of the younger students' ideas across to the older student's in a more effective way.* Internal punctuation contains some errors: *This is a definite loss, but they would make up for this by having the advantage of being able to control what rules and policies would affect them and they would have a smaller group to work with.* Occasional errors in grammar and usage do not block meaning but distract the reader.

Foreign Languages by Satellite

At the present time our school is offering Spanish I and II and German I and II by satellite. For students who are involved in the program, this means watching a taped broadcast monitored by a coordinator during their language class. A hotline with a 1-800 number is available for students to ask questions, practice speaking, and get help on assignments. However, class time cannot be used to call, and the coordinator is not required to know either language herself. The arrangement is not practical or effective. Foreign languages should be taught by a certified teacher who knows the language, not by satellite.

The foremost argument in favor of the satellite program is that it is significantly cheaper than hiring a certified teacher to teach foreign languages. With a limited budget, this may seem like a good answer, but in reality the amount of learning is decreased so much that it would be worth it to spend the extra money to hire a teacher instead. The quality of education is lowered by offering satellite courses instead of foreign languages taught by a classroom teacher.

According to supporters of foreign language instruction by satellite, students learn to be self-directed learners and are forced to become organized and responsible for their own learning in order to do well in the class. This is true, but people learn in different ways, and the satellite program is not best for most people. What happens to many students is that they become frustrated and fall behind, after which it's very hard to get caught up.

Too much is lost by taking a foreign language course by satellite. No speaking of the language takes place in class, so students don't learn how to pronounce words or speak fluently. Advances in reading and writing of the language occur, but not verbally. Words are spoken on the broadcasts, but not often enough for students to really catch on, and if students aren't practicing speaking, they soon forget. Calling in on their own time is also difficult for some students to do. Besides, it is hard to understand pronunciation over the phone, especially when most of the people who answer the hotline speak quickly with thick accents. Pronunciation tests are part of the grading, which most students do poorly on because of lack of practice and knowledge. Then, there is the problem of the coordinator not knowing how to pronounce words or mispronouncing them, which can lead to confusion.

The university that makes the broadcasts began broadcasting in the fall before school started at our school. As a result of this, our school is behind on the broadcasts. Missed school days because of weather, power outages, and other variables have caused the school to fall further behind. An example of what this can mean for students is that they may be watching a tape talking about The Day of the Dead (the Spanish equivalent of Halloween) in December or a tape during which they get to make Christmas decorations in January. Another problem with the timing is that a pace is set without the needs of specific classes in mind. Sometimes students need more work in an area before proceeding, but don't get it and become frustrated as they are forced to move on. Other times students need less time on the broadcasts taken up with certain subjects and become bored.

Considering the points on both sides, it is clear that having a certified classroom teacher for foreign language classes is much more productive, effective, and worth the money than offering the courses by satellite. Therefore, our school should hire a qualified classroom teacher to teach foreign language classes in the future.

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Score Sheet for Writing Sample 2

Title: Foreign Languages by Satellite

(This IS an acceptable response.)

Ideas and Content	Organization	Voice
6 (5) 4 3 2 1	6 (5) 4 3 2 1	6 (5) 4 3 2 1

Word Choice	Sentence Fluency	Conventions
(6) 5 4 3 2 1	6 (5) 4 3 2 1	6 (5) 4 3 2 1

NOTE: The underlined passages are taken from the official writing-scoring guide.

Ideas and Content: This paper scored a 5 in ideas and content. The paper demonstrates clarity, focus and control throughout. The introduction provides background information and clarifies the purpose. Main ideas are supported with relevant, carefully selected details. The writer acknowledges the foremost reasons for offering satellite courses and presents counter positions by sharing insights and providing specific examples that support the proposal. The writing presents a balanced exploration of the topic.

Organization: This paper scored a low 5 in organization. Order is strong and helps the reader through the text. The structure is formulaic but nevertheless highly effective given the purpose of the paper. Effective transitions connect ideas and details within paragraphs; however, transitions are somewhat weak between paragraphs.

Voice: This paper scored a 5 in voice. The writer has chosen a voice appropriate for the topic, purpose and audience. The writer has a strong sense of the audience and effectively communicates ideas about a serious topic in a way that is engaging and sincere.

Word Choice: This paper scored a low 6 in word choice. Part of the paper's strength is derived from the writer's ability to use clear and precise language. Accurate, strong, specific words energize the writing: *For students who are involved in the program this means watching a taped broadcast monitored by a coordinator during their language class. A hotline with a 1-800 number is available for students to ask questions, practice speaking and get help on assignments.* The writer establishes a great deal of credibility with the reader.

Sentence Fluency: This paper scored a low 5 in sentence fluency. The writing has an easy flow and rhythm. There is variation in sentence structure, length and beginnings that add interest to the text. In all but a few places, the writing has a natural sound and the reader can move easily throughout the piece. Occasionally, there are lapses in stylistic control: *Advances in reading and writing the language occur, but not verbally.* Some fairly complex sentence structures are used with variable control: *Other times students need less time on the broadcasts taken up with a certain subject and become bored.*

Conventions: This paper scored a 5 in conventions. The writing demonstrates strong control of standard writing conventions and uses them effectively to enhance communication. The paper shows skill in using a wide range of conventions in a sufficiently long piece.

Drug and Alcohol Class.

In my school, I would like to see a alcohol & drug class be taken. Because some kids really need help. Some kids come to school high and drunk during school hours.

Drugs class would be good for some people. It might show what drugs could do to you and your body. What drugs could do to your body and your brain.

Some drugs can make you really sick. I think they should be a drug class and alcohol class too.

We really need these class. It should require to take before you should leave school. It would help some kids realize what they do to you.

My High school should have these class.

Alcohol class should be taken too. Because alcohol is the most dangerous drugs there in in this would to day. Alcohol ~~class~~ is not required under the age 21 years old. Some people started at the age of fifteen years old and they get into trouble sometimes they drink on weekends.

I really think it should be taken in my High School.

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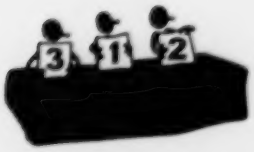


Score Sheet for Writing Sample 3

Title: Drug and Alcohol Classes

(This is NOT an acceptable response.)

Ideas and Content	Organization	Voice
6 5 4 3 (2) 1	6 5 4 3 (2) 1	6 5 4 (3) 2 1

Word Choice	Sentence Fluency	Conventions
6 5 4 3 (2) 1	6 5 4 3 (2) 1	6 5 4 (3) 2 1

Ideas and Content: This paper scored a **2** in Ideas. The writing is characterized by minimal development and insufficient details: *it might be good for some people…it would help some kids realize what they do to you.* There is extensive repetition of detail; the writer repeats the ideas that *we should have this class* several times without developing in any detail why.

Organization: This paper scored a **2** in organization. The writing lacks a clear organizational structure…some attempts at sequencing, but the order of relationships seems unclear. Paragraphs seem randomly placed and there is a lack of clear transitions between paragraphs. Undeveloped beginning, body and end.

Voice: This paper scored a low **3** in voice. There is an occasional sense of the writer behind the words, but this disappears a line later: *Some drugs can make you really sick…alcohol is the most dangerous drug there is in this world today. I think there should be a drug class and alcohol class too.* A limited sense of audience; the writer's awareness of the reader is unclear.

Sentence Fluency: This paper scored a **2** in sentence fluency. Awkward constructions cause the reader to slow down or reread: *It should require to take before you should leave school. Because some kids really need help.* Sentence patterns are monotonous. *Drug class would be good…they should be a drug class, our high school should have this class...I really think it should be taken.*

Word Choice: This paper scored a **2** in word choice. Language is monotonous and misused. Words are colorless, flat, or imprecise; monotonous repetition: *Would…could…should… it* ...are overused, detracting from impact. Misuse of simple words such as: *they* for *there. Alcohol is not required under the age of 21 years old.*

Conventions: This paper scored a low **3** in conventions. The writing demonstrates limited control of standard writing conventions; errors begin to impede readability. End of sentence punctuation is usually correct, but internal punctuation contains frequent errors. Errors in grammar and usage do not block meaning but do distract the reader: *Alcohol class should be taken too. Because alcohol is the most dangerous drugs in this world to day.*

Other Information Regarding Extended Writing

Keep in mind.....

- You will be given two pages in the test booklet to write your final copy. It is important that you take advantage of the two pages you are given to develop your ideas fully. This is your opportunity to demonstrate how well you can write.

- When examining these scores, notice a higher score in one trait may compensate for a lower score in another; however, you should attempt to score at least a "4" in each trait. If you read the rubric, a "3" describes a paper that is "weaker than strong."

- Your final copy needs to be handwritten (not done on a computer). Printing your work is acceptable; however, be sure to distinguish between upper- and lower-case letters. Do NOT print in all capital letters.

- You may use a dictionary or thesaurus as a reference during the extended writing response portion of the test.

- Be conscious of the traits, or characteristics, of effective writing (idea development, organization, voice, word choice, sentence fluency, and conventions) no matter what kind of writing you are asked to do. The same scoring guide, or rubric, will be used for all the types of writing you may be asked to write: narrative, persuasive, expository, or formal communication.

To examine additional papers that will give you an even better idea of what sample papers look like with a range of higher and lower trait scores, visit the Oregon Department of Education website http://www.open.k12.or.us.

We extend our thanks to them for allowing us to reproduce these sample papers.

MATHEMATICS

Mathematics is used as a means to communicate about quantities, logical relationships, and unknowns. Such a simplistic statement may make students who are not planning to go to college ask why mathematics is necessary for them. While the ability to do computation is important, it is the skills of problem-finding/solving, formalizing, abstract thinking, symbolic representation and interpretation, formulation of logical arguments, and objective reasoning that allow us to function effectively and understand our world. Mathematics is the one area of coursework in the high school curriculum where students are taught these skills, and where answers cannot just be obtained by common sense and guessing. Even without an ever-increasing reliance on technology, mathematical skills meet needs for practical everyday life, intelligent citizenship, and future employment. A study by Arizona State University indicated that students who opt out of advanced levels of mathematics and science may now eliminate up to 75% of career opportunities from which to choose†. Algebra has been called the academic passport for passage into virtually every avenue of the job market and every street of schooling. Employers want their employees to be able to set up problems, estimate solutions, identify how accurate solutions need to be, work with other people to reach goals, know the many different types of mathematics that exist, and determine which one is needed in a particular situation. It is clear that the mathematical literacy of the twentieth century will not be sufficient for the twenty-first century.

†ASU Research, Fall, 1998, p.41

About the Test

The mathematics test will be divided into two sections, each about 90 items, given over two days with algebra and geometry given on different days. Most of the questions are multiple choice, but a few questions do require short answer responses. Although calculators are not allowed, the calculations required can be readily handled with pencil and paper. The questions will deal more with conceptual understanding and problem-solving skills rather than emphasizing computation skills.

Mathematics Standards: Proficiency Level

MP 1: Number Sense. Students develop number sense and use numbers and number relationships to acquire basic facts, to solve a wide variety of real-world problems, and to determine the reasonableness of results.

MP 2: Data Analysis and Probability. Students use data collection and analysis, statistics, and probability to make valid inferences, decisions and arguments, and to solve a variety of real-world problems.

MP 3: Patterns, Algebra and Functions. Students use algebraic methods to explore, model and describe patterns, relationships and functions involving numbers, shapes, data, and graphs within a variety of real-world problem-solving situations.

MP 4: Geometry. Students use geometric methods, properties and relationships as a means to recognize, draw, describe, connect, and analyze shapes and representations in the physical world.

MP 5: Measurement and Discrete Mathematics. Students make and use direct and indirect measurement, metric and U.S. customary, to describe and compare the real world and to prepare for the study of discrete functions, fractals and chaos that have evolved out of the age of technology.

MP 6: Mathematical Structure/Logic. Students use both inductive and deductive reasoning as they make conjectures and test the validity of arguments.

Hints for Taking AIMS-Math

- Remember! This is NOT a speed test! Take your time and do your best work.
- Since calculators are not allowed in this test, be careful in your calculations and double-check your work. Remember to estimate beforehand to check if your answer is reasonable.
- On multiple choice questions, look at ALL the choices and pick the BEST one.
- On short-answer problems, you will earn more points if you clearly show the steps you used to solve problems. The scorers will be looking not only for a correct answer, but also evidence of an understanding of the process you used to solve the problem. You will earn only partial credit if you do not show how you arrived at the correct answer. Be sure your explanation is clear to the readers and that your written response says what you mean.

SAMPLE QUESTIONS - MATHEMATICS

What To Expect From This Section

This Student Guide for Mathematics provides examples of the format and types of questions that will appear on the test. Each question is referenced to the standard and concept it is assessing. An attempt has been made to provide a sampling of the types of questions that might be asked; however, not every concept in each standard has a corresponding sample question in this Guide. An answer key for all mathematics sample questions will be provided in Appendix A (page 28), including acceptable answers for short-answer questions. In addition, you will find the AIMS Reference Sheet in Appendix C (page 37) that will be included in the actual AIMS mathematics test. Finally, blank answer sheets have been provided for you to practice writing your responses to the short-answer questions. They are on pages 24 and 25.

STANDARD 1: Number Sense

General concepts you should know:

- Real number system and its various subsystems (natural, whole, integers, rationals, and irrationals)
- Commutative, associative, distributive, identity, inverse and closure properties
- Operations with positive and negative numbers
- Scientific notation
- Absolute value

Question 1 (assesses concept 1.1.1 - classify numbers as members of the sets - natural, whole, integers, rationals, and irrationals).

Which of these could NOT be classified as the number representing the number of people in a room?

A. Rational number
B. Integers
C. Whole numbers
D. Irrational numbers

Answer key is on page 28

Question 2 (assesses concept 1.2.8 - convert standard notation to scientific notation)

Mercury, which is the planet nearest to the sun, is about 36,000,000 miles from the Sun. How is this distance expressed in scientific notation?

A. 3.6×10^6
B. 3.6×10^7
C. 36×10^8
D. 36×10^9

STANDARD 2: Data Analysis and Probability

General concepts you should know:

- Graphs (histograms, line graphs, circle graphs, box-and-whisker plots, frequency charts, stem-and-leaf plots, scatter plots, matrices)
- Measures of central tendency, variability and correlation (mean, median, mode, quartiles, range, standard deviation)
- Sample vs. census
- Biased vs. unbiased samples
- Pattern prediction
- Misuses of statistics
- Probability
- Combinations and permutations

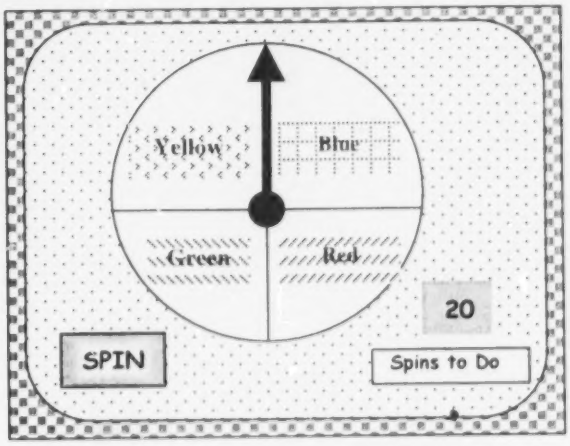
Question 3 (assesses concept 2.1.6 - explain graphic misrepresentations and distortions of sets of data):

A TV reporter showed the following graph and stated, "There has been a huge increase in the number of robberies since last year."

Do you consider the reporter's statement to be accurate? **Briefly explain**. Use the blank answer sheet on page 24 for practice.

Question 4 (assesses concept 2.1.3 - draw inferences from collections of data)

Martin conducted a probability experiment using a computer program to simulate spinning the arrow on the 4-color spinner 20 times. He repeated his experiment 4 times. The spreadsheets below show the results of each trial. In which trial do the results most closely resemble the theoretical probability of spinning the arrow on the spinner 20 times?



Trial 1

Color	Number of Spins
Green	4
Yellow	5
Blue	6
Red	5

A

Trial 2

Color	Number of Spins
Green	4
Yellow	8
Blue	5
Red	3

B

Trial 3

Color	Number of Spins
Green	7
Yellow	7
Blue	2
Red	4

C

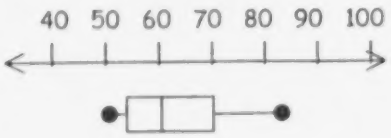
Trial 4

Color	Number of Spins
Green	3
Yellow	1
Blue	11
Red	5

D

Question 5 (assesses concept 2.1.3 - draw inferences from collections of data)

The speed for a sample of twenty-five cars is shown in miles per hour (mph) in the box-and-whiskers graph below.

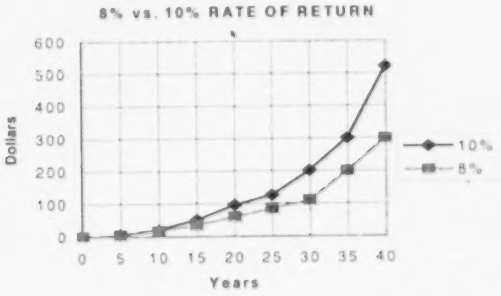


If an officer is writing speeding tickets to each driver in the sample whose speed is more than 70 mph, about what percentage of the drivers will be ticketed?

A. 25%
B. 40%
C. 75%
D. cannot be determined

Question 6 (assesses concept 2.1.4 - evaluate the reasonableness of conclusions drawn from data analysis)

The graph below shows the results of investing $100 per month in accounts with two different rates of return. Based on this information, which statement below is true?



A Investing $100 per month in an account that pays 10% rather than 8% will not make any difference until after 25 years.

B. A larger rate of return causes the account to grow rapidly at first but then the growth rate slows.

C. A small increase in the rate of return makes a significant difference in the growth of the account over 40 years.

D. If the graph was to continue to 100 years, the 8% line would catch up to the 10% line.

Question 7 (assesses concept 2.6.2 - use experimental observations to estimate probabilities of entire populations)

A newspaper surveyed 500 voters in a small town to determine public opinion on a new legislative bill. The results of the survey are shown in the table. If there are 2000 voters in this town, what is the expected number of voters who oppose the bill?

VOTER SURVEY

	Favor	Oppose	No Opinion
Number of Voters	210	225	65

A. 45 B. 225
C. 900 D. 1,125

Question 8 (assesses concept 2.1.1 - organize collections of data into ...scatter plots...)

The table below shows the 200-yard-freestyle-swim times for Zack in the last 7 races.

Zack's Race Times

Race	Time
1	2:27.79
2	2:22.03
3	2:19.71
4	2:21:00
5	2:17:36
6	2:15:82
7	2:18.01

<u>Draw a scatterplot</u> that correctly shows the information in the table. You must label your graph. Use the blank answer sheet on page 24 for practice.

<u>STANDARD 3: Algebra</u>

General concepts you should know:

- Graphing, evaluating, simplifying, solving linear equations and inequalities
- Real and rational roots
- Systems of linear equations
- Domain and range of equations
- Sine, cosine, tangent (right-triangles)
- Maximum/minimum of graphs

Question 9 (assesses for concept 3.4.4 - interpret algebraic equations and inequalities geometrically and describe geometric relationships algebraically)

Which of these is the correct equation for the line that crosses the x-axis at (3,0) and the y-axis at (0,6)?

A. $y = 2x + 3$ B. $y = 2x + 6$
C. $y = -2x + 3$ D. $y = -2x + 6$

Question 10 (assesses for concept 3.6.9 - solve linear equations and inequalities in one variable):

What are all values of x for which the inequality $5x + \frac{5}{3} \le -2x - \frac{2}{3}$ is true?

A. $x \le -\frac{7}{9}$ B. $x \le -\frac{1}{3}$
C. $x \ge 0$ D. $x \ge \frac{7}{3}$

Question 11 (assesses for concept 3.6.3 - simplify algebraic expressions):

Simplify: $2x(x^2 + 3xy + 6y^2)$

A. $2x^3 + 3xy + 6y^2$ B. $2x^3 + 6x^2y + 12xy^2$
C. $2x^2 + 6xy + 12y^2$ D. $2x^2 + 6x^2y + 12xy^2$

Question 12 (assesses for concept 3.2.1 - express the relationship between two variables using ...equation)

Which equation expresses the relationship between x and y in the table?

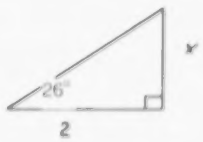
x	1	2	3	4
y	1	3	5	7

A. $y = 2x - 1$ B. $y = x$
C. $y = x + 1$ D. $y = x + 2$

Question 13 (assesses concept 3.5.2 - solve simple right-triangle trigonometric equations involving sine, cosine, tangent)

Solve for x.

Sine 26° = .438
Cosine 26° = .899
Tangent 26° = .488



A. $x = .976$ B. $x = 1.80$
C. $x = 2.23$ D. $x = 4.56$

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Question 14 (assesses for concept 3.8.1 - translate verbal expressions and sentences to mathematical expressions and sentences)

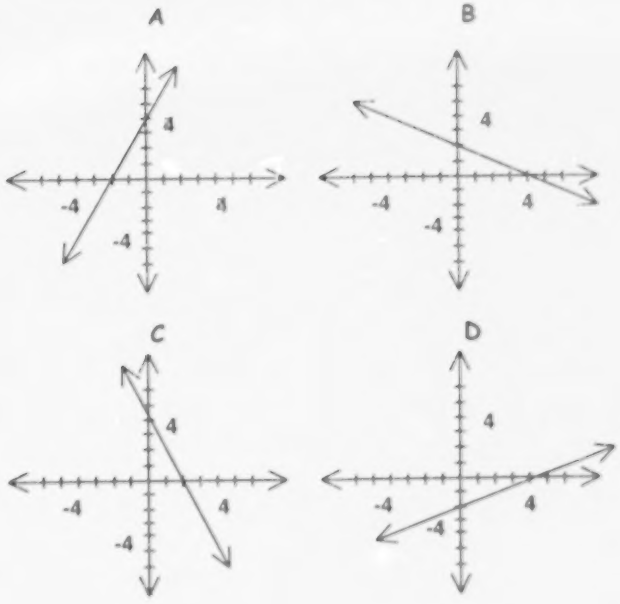
Bob is making a long-distance phone call from Cordes Junction to his friend in Cedar Springs. The telephone company says the call will cost $1.25 for the first minute and $0.75 for each additional minute. If Bob and his friend talk for m minutes, how much will the call cost?

A. $0.75 + 1.25m$ B. $1.25 + 0.75(m - 1)$
C. $0.75 + 1.25(m - 1)$ D. $1.25 + 0.75m$

Question 15 (assesses for concept 3.7.2 - create a graph from a table of values)

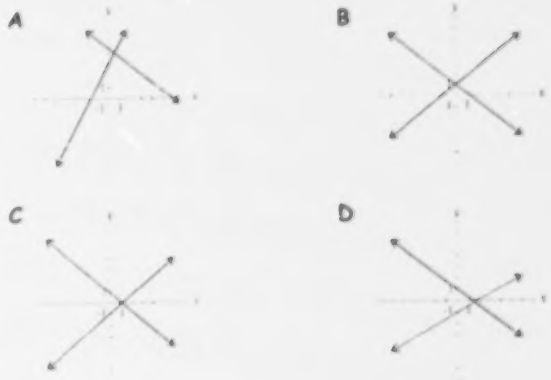
Which of the following lines passes through the points in the table?

x	y
0	4
2	0
3	-2



Question 16 (assesses for concept 3.4.1 - graph a linear equation in two variables)

Which pair of lines shown below could be the graphs of $2x + 3y = 3$ **and** $2x - 4y = 4$?



Question 17 (assesses for 3.6.2 - evaluate algebraic expressions using substitution)

In the equation below, what is the value of y when $x = -2$?

$$-12x^2 + 17x + 5 = y$$

A. 19 B. -5
C. -9 D. -77

Question 18 (assesses concept 3.6.11 - solve quadratic equations)

Solve: $x^2 - 32 = 4x$. **Show your work**. Use the blank answer sheet on page 25 for practice.

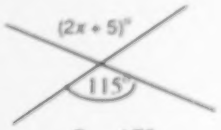
STANDARD 4: Geometry

General concepts you should know:

- Pythagorean Theorem
- Triangle characteristics (congruence and similarity relationships)
- Angle characteristics (complementary, supplementary, and congruent)
- Circle characteristics (arcs, chords, tangents, and secants)
- Identification of prisms, pyramids, cones, cylinders, and spheres
- Coordinate plane characteristics (coordinates, distance, midpoint)
- Transformations (reflections, rotations, dilations, and translations; symmetry)

Question 19 (assesses for 4.2.8 – solve problems involving complementary, supplementary and congruent angles)

Line l intersects line l_2 in the following figure. What is the value of x?



A. 55°
B. 65°
C. 115°
D. 220°

Question 20 (assesses for concept 4.5.1 – determine the relative placement of two lines on a coordinate plane by examining the algebraic equations)

Which statement is true about the graphs of these equations?

$$3y = -12x + 6$$
$$-2y = 8x - 4$$

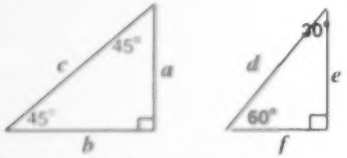
A. The lines coincide
B. The lines are parallel
C. The lines are perpendicular
D. The lines intersect, but are not perpendicular

Question 21 (assesses for concept 4.2.3 – solve problem situations using Pythagorean theorem)

A 10-foot ladder is leaning against a building. How high on the building will the ladder reach when the bottom of the ladder is 6 feet from the building? **Show your work**. Use the blank answer sheet on page 25 for practice.

Question 22 (assesses for concept 4.4.1 – find similarities and differences among geometric shapes)

A draftsman uses the two drawing triangles shown below. If $a = e$, which equation is true about the two triangles?



A. b = f
B. c = d
C. a + b = d + e
D. a + b + c ≠ d + e + f

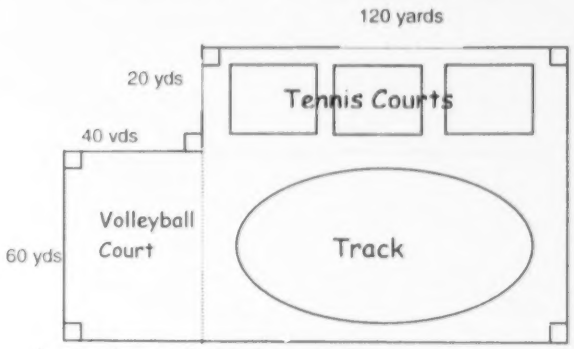
Question 23 (assesses concept 4.1.1 – sketch a three-dimensional object)

Directions: Do this question in the Answer Booklet. Use the blank answer sheet on page 25 for practice.

Sketch a cylinder.

Question 24 (assesses for concept 4.2.7 – find the area of a geometric figure composed of a combination of two or more geometric figures, given an appropriate real-world situation and the formulas)

A new fence is being constructed around the



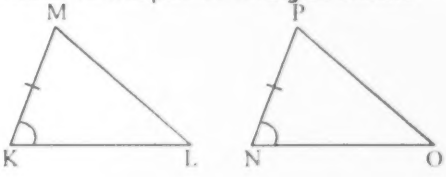
school athletic field shown below.

How much fencing will be needed to enclose the entire athletic field, which includes the track, the volleyball court, and the tennis courts?

A. 252 yds
B. 360 yds
C. 480 yds
D. 504 yds

Question 25 (assesses concept 4.4.1 – find similarities and differences geometric shapes ..using a given attribute)

Refer to the pair of triangles shown.



Which of the following must be true so that $\Delta KLM \cong \Delta NOP$ by ASA?

A. $\overline{LM} \cong \overline{OP}$
B. $\overline{KL} \cong \overline{NO}$
C. $\angle M \cong \angle P$
D. $\angle L \cong \angle O$

STANDARD 5: Measurement & Discrete Mathematics

Concepts you should know:

- Algorithms
- Arithmetic and geometric sequences
- Metric and U.S. customary measurement
- Matrices

Question 26 (assesses for concept 5.3.3 - determine whether given algorithms are equivalent)

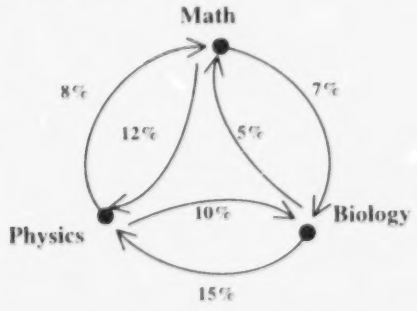
Which of the following algorithms are equivalent?

I Given a list of 25 numbers, put them in ascending order. Entry 13 is the number you are looking for.
II Given a list of 25 numbers, put them in descending order. Entry 13 is the number you are looking for.
III Given a list of 25 numbers, put them in ascending order. Entry 25 is the number you are looking for.
IV Given a list of 25 numbers, put them in descending order. Entry 25 is the number you are looking for.

A. I and II B. II and III
C. I and IV D. I, II, III, and IV

Question 27. (assesses 5.2.1 - interpret data using ...finite graphs)

The directed graph below shows the percentage of students from a local college who changed majors



What percentage of the physics majors switched to math or biology?

A. 22% B. 23%
C. 27% D. 18%

Question 28 (assesses concept 5.4.5 - use critical path methods in problem solving)

Six basketball teams will play in a tournament. Each team will play every other team once. How many games will be played?

Draw a geometric figure to represent the games played. Make each vertex represent one basketball team. Use the blank answer sheet on page 24 for practice

STANDARD 6: Mathematical Structure and Logic

Concepts you should know:

- Inductive and deductive reasoning
- Conjectures
- Validity of arguments

Question 29 (assesses concept 6.4.1 - write an appropriate conjecture given a certain set of circumstances)

If x is always positive and y is always negative, then xy is always negative. Based on the given information, which of the following conjectures is valid?

A. $x^n y^n$, where n is an odd natural number, will always be negative.
B. $x^n y^n$, where n is an even natural number, will always be negative.
C. $x^n y^m$, where n and m are distinct odd natural numbers, will always be positive
D. $x^n y^m$, where n and m are distinct even natural numbers, will always be negative.

Question 30 (assesses concept 6.2.6 - analyze assertions ...using principles of logic)

The following is an advertisement for basketball shoes: "Michael Jordon wears our shoes and he scores an average of 35 points per game. Buy our shoes and start breaking records yourself."

Determine whether or not the advertisement is a fallacy. Explain why or why not.

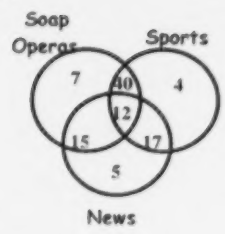
(Please note: There is no practice answer sheet for this question.)

Question 31 (assesses concept 6.2.5 - use Venn diagrams...)

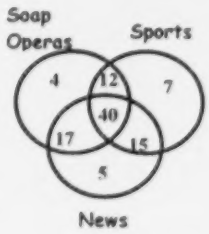
In a poll of 100 people, the following data was collected about the programs watched on television. Which Venn diagram represents this data?

# of People	Television Program
73	soap operas
74	sports
77	news
12	soap operas and sports only
17	soap operas and news only
15	sports and news only
40	soap operas, sports, and news only

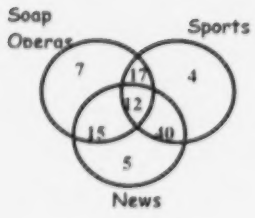
A



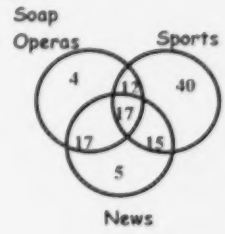
B



C



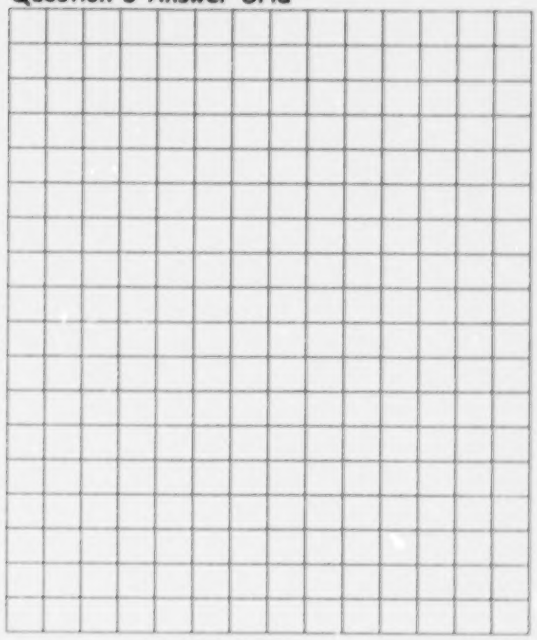
D



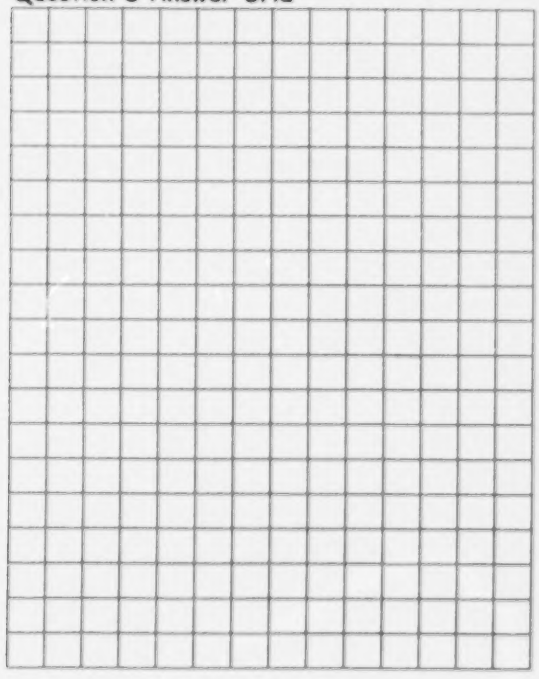
Answer Sheet for Short Answer Mathematics Problems

(Note that the answer space for short-answer questions is a grid. This does NOT imply that you are to graph your answer. Simply write your explanation or show your work in the grid.)

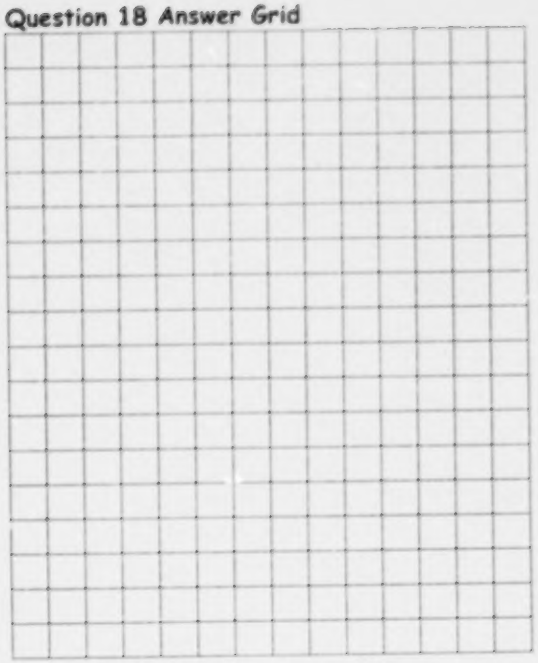
Question 3 Answer Grid



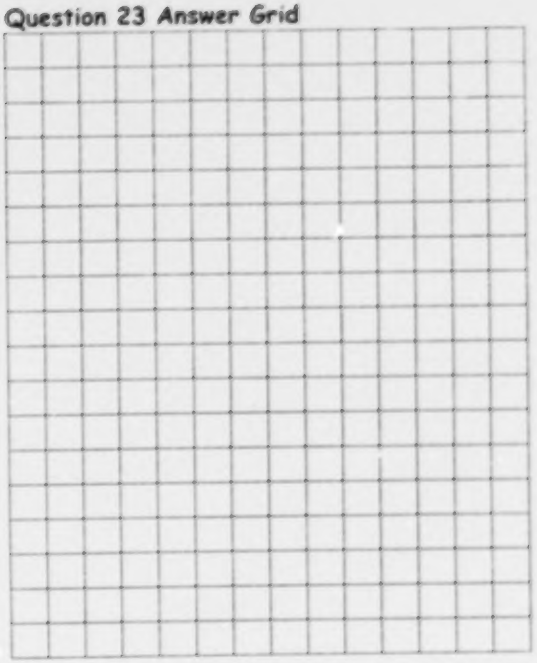
Question 8 Answer Grid



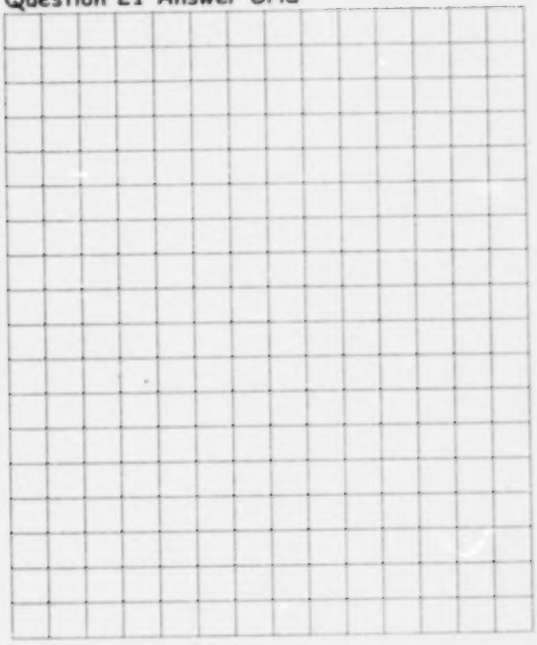
Question 18 Answer Grid



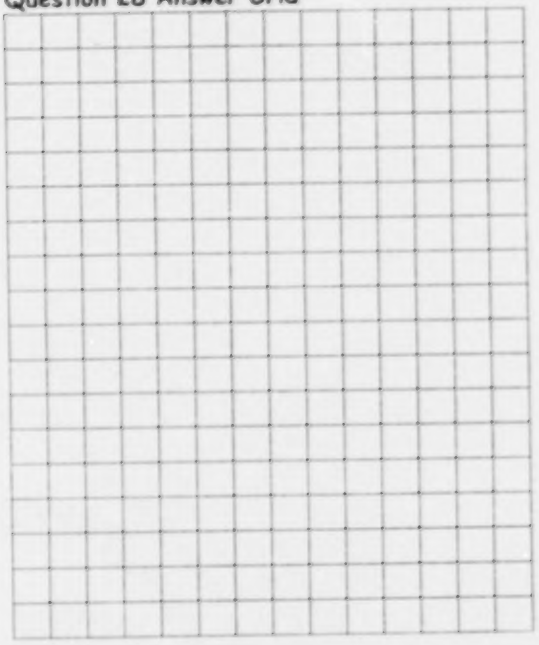
Question 23 Answer Grid



Question 21 Answer Grid



Question 28 Answer Grid



APPENDIX A
ANSWER KEYS

READING KEY

Question #1. C
Question #2. A
Question #3. A
Question #4 D

Question #5. **Score Points:**

2 points Response gives an appropriate explanation supported with information from the article.

1 point Response gives an appropriate explanation but does not provide valid or any support.

0 points Other

Example of a 2 Point Response for Reading Question 5:

No. You do not need a college education to work with computers. The article states that the field is changing so fast that it often requires some initiative on the part of the person. Also, many companies provide some basic training for the computer.

Example of a 1 Point Response for Reading Question 5:

No, you do not need a college education to get a job working with computers. The article states that in the software part of the industry "what you know is more important than how you got that knowledge.

Question #6. **Score Points:**

2 points Response includes an advantage of having the article broken up into sections **AND** provides an example from the article.

1 point Response includes an advantage of having the article broken up into sections **BUT** does not provide an example **OR** provides an example **BUT** response does not explain the advantage of having the article broken up into sections.

0 points Other

Example of a 2 Point Response for Reading Question 6:

An advantage of having an article broken up into sections is that it makes information easier to find and it allows the reader to focus on specific subjects. For example, in the "Let's start with the basics" section, the author explains how computer careers can be arranged around the three main components of any computer system: the hardware, the software, and the people.

Example of a 1 Point Response for Reading Question 6:

An advantage of having the article organized into sections is that a reader can skim the article and get an idea of what it covers.

WRITING KEY

Question #1. A
Question #2. B
Question #3. C
Question #4. C

Question #5. Score Points:

2 points Correct choice of the first sentence with a reference to the need for a source to supply comparison data

1 point Correct choice of the first sentence with incomplete reason for choice

0 points Other

Example of a 2 Point Response for Writing Question 5:

The first sentence will require documentation (or a footnote) because an authority or source is needed to verify the size of the saguaro in comparison with all other Arizona cacti. The second sentence can be verified by observing Kim's property.

Example of a 1 Point Response for Writing Question 5:

The first sentence will most likely require documentation since Arizona cacti are of various heights.

Question #6: Score Points:

3 points Student response is a 3-paragraph letter including all the bulleted information.

2 points Student response is a 3- or fewer paragraph letter **AND** includes 2 of the three pieces of information in the bullets

1 point Student response is a 2- or fewer paragraph letter **AND** includes only 1 of the three pieces of information in the bullets

0 points Other

Example of a 3 Point Response for Writing Question 6:

To the University of California Santa Cruz (UCSC):

I am a high school senior at Monterey High School and have recently visited the campus at UCSC . I was impressed with the academic climate, the new facilities, and the friendliness of the students and faculty.

I have been interested in mechanical engineering for some time; anything mechanical appeals to me. I visited the engineering department and was most impressed with the mentoring program. Not only is it academically challenging, this program provides hands-on practical work experience in this field and the opportunity to learn from a practicing professional. I am sure this would be an asset in pursuing a career in engineering after graduation.

I would like to apply to the engineering program at UCSC and am requesting an application for admission. I can already picture myself as a student on UCSC's campus-and what a great location!

Sincerely,

Troy Lynch

Example of a 2 Point Response for Writing Question 6:

To Arizona State University:

I am currently a student at Madison High School. I would like to get more information about admission to ASU.

I am interested in Law for my major. I enjoy people and justice.

I hope I get accepted at that University. I will be prompt in sending the information filled out.

Sincerely,

Ann Marie Hutchison

Example of a 1 Point Response for Writing Question 6:

To the University of Arizona:

I am about to finish High School, my grades are good and I hope I can get information on Engineering. That is what I would like to study.

Thanks for the attention to my letter. I will be waiting for the information.

Sincerely,

Troy Lynch

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MATHEMATICS KEY

Question #1 D
Question #2 B

Question #3 Score Points:

2 points Student response is NO **AND** student focuses on the fact that only a small part of the graph is shown.

1 point Student response is NO, **BUT** no explanation is given **or** focuses on the size of increase **WITHOUT THE USE OF NUMBERS.**

0 points Other responses

Examples of 2 Point Responses for Math Question 3:

No, I don't think it is a reasonable interpretation of the graph because if they were to show the whole graph you would see that there is only a slight increase in robberies.

OR

No, it is not reasonable. 10 is not a huge increase compared to a total of 500.

Examples of 1 Point Responses for Math Question 3:

No, it only increased by 10 robberies.

OR

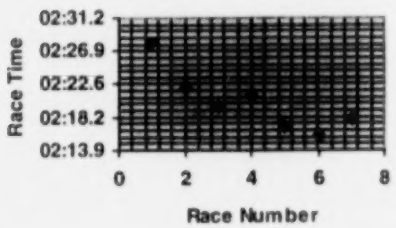
No, there's been an increase but not a huge increase

.

Question #4: A
Question #5: A
Question #6: C
Question #7: C

Question #8 - Score Points:

2 points Student correctly plots 7 points on a scatterplot **WITH** consistent scales **AND** axes correctly labeled.



1 point Student response is any **one** of the following:

- correctly plotting at least 5 points on a scatterplot with consistent scales and axes correctly labeled

OR

- correctly plotting 7 points on a graph (other than a scatterplot) with consistent scales and no labels

OR

- correctly plotting 7 points with no labels

0 points Other responses

Question #9 D
Question #10 B
Question #11 B
Question #12 A
Question #13 A
Question #14 B
Question #15 C
Question #16 D
Question #17 D

Question #18 Score Points:

2 points for correct process **AND** correct answer, $x = -4, x = 8$ **(see examples 1-4)**

Example 1 for Math Question #18

$$x^2 - 4x - 32 = 0$$
$$(x + 4)(x - 8) = 0$$
$$x = -4, x = 8$$

Example 2 for Math Question #18

$$x^2 - 4x - 32 = 0$$
$$x^2 + 4x - 8x - 32 = 0$$
$$x(x + 4) - 8(x + 4) = 0$$
$$(x - 8)(x + 4) = 0$$
$$x = -4, x = 8$$

Example 3 for Math Question #18

$$x^2 - 4x - 32 = 0$$
$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-32)}}{2(1)}$$
$$x = \frac{4 \pm \sqrt{16 + 128}}{2}$$
$$x = \frac{4 \pm \sqrt{144}}{2}$$
$$x = \frac{4 \pm 12}{2}$$
$$x = -4, x = 8$$

Example 4 for Question #18

Graph of $x^2 - 4x - 32 = 0$ finds the solutions $x = -4,\ x = 8$

1 point for any one of the following:

- correct process

  In **Examples 1 or 2**, show correct process to $(x + 4)(x - 8) = 0$ **OR** $(x - 8)(x + 4)$

  In **Example 3**: show correct process to

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-32)}}{2(1)}$$

- correct answer, $x = -4$, $x = 8$ with no work or incorrect or incomplete work
- correctly graphs $x^2 - 4x - 32 = 0$
- uses guess and check to show that $x = -4$ and/or $x = 8$ satisfy the equation

0 points for other responses

Question #19 A
Question #20 A

Question #21 Score Points:

2 points Student uses correct process AND gives correct answer, 8 feet or $\sqrt{64}$ feet **(see examples 1-2)**

Example 1 for Question #21

$10^2 - 6^2 = h^2$
$100 - 36 = h^2$
$64 = h^2$
$\sqrt{64} = h$ **or** $8 = h$

Example 2 for Question #21

3 x 2 = 6 and 5 x 2 = 10 since 3, 4, 5 is a Pythagorean triple the ladder will reach a height of 4 x 2 = 8 feet up the building

1 point for any one of the following:

- correct process to $100 - 36 = h^2$
- correct process with one computational error
- correct answer, 8 feet or $\sqrt{64}$ feet with no work or incorrect or incomplete work

0 points other responses

Question #22 D

Question #23 Score Points:

2 points Student correctly draws a cylinder **(see examples 1-3)**

Example 1 for Question #23

Example 2 for Question #23

Example 3 for Question #23

Drawing at least 2 labeled views so that a cylinder can be uniquely determined

Side View Top View

1 point Student draws any one of the following **(see examples 4-5)**

Example 4 for Question #23

Anything that resembles a cylinder

Example 5 for Question #23

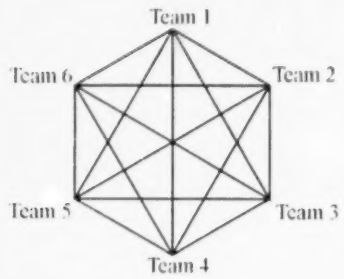
Drawing a net of a cylinder

0 points Other responses

Question #24 C
Question #25 C
Question #26 A
Question #27 D

Question #28 Score Points:

2 points Student draws a hexagon or other figure, labels each vertex, and draws diagonals to indicate which team plays which team **AND** determines that 15 games will be played in the tournament (see diagram).



1 point Student draws a hexagon or other figure that approximates the problem but does not determine that 15 games are needed in the tournament.

0 points Student does not draw a geometric figure that approximates the problem and does not determine that 15 games are needed in the tournament.

Question #29 A

Question #30 Score Points

2 points Student states that the advertisement is a fallacy with logical explanation (see examples 1 and 2)

OR

Student gives a logical explanation that clearly implies it is a fallacy (see example 3)

OR

Student states that the advertisement is NOT a fallacy with a clear explanation indicating that the statement is a conjunction rather than a conditional statement (see example 4)

Example 1 for Question #30

The statement is a fallacy. Wearing the same shoes as Michael Jordan does not mean that you're going to play like him.

Example 2 for Question #30

Yes, shoes don't make you a better player.

Example 3 for Question #30

I won't score more points just because I have the same kind of shoes as Michael Jordan.

Example 4 for Question #30

It isn't, because it doesn't promise the buyer anything. It tells people to buy shoes <u>and</u> break records. NOT, if you buy our shoes, <u>then</u> you will break records.

1 point Student states that the advertisement is a fallacy with no explanation, or gives an illogical, vague, misfocused or inconclusive explanation.

0 points Other responses.

Question #31 B

IDEAS and CONTENT

6 The writing is exceptionally clear, focused and interesting. It holds the reader's attention throughout. Main ideas stand out and are developed by strong support and rich details suitable to audience and purpose. The writing is characterized by • clarity, focus, and control. • main idea(s) that stand out. • supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support • a thorough, balanced, in-depth explanation/ exploration of the topic; the writing makes connections and shares insights. • content and selected details that are well suited to audience and purpose.	**5** The writing is clear, focused and interesting. It holds the reader's attention. Main ideas stand out and are developed by supporting details suitable to audience and purpose. The writing is characterized by • clarity, focus, and control. • main idea(s) that stand out. • supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support. • a thorough, balanced explanation/exploration of the topic; the writing makes connections and shares insights. • content and selected details that are well-suited to audience and purpose.	**4** The writing is clear and focused. The reader can easily understand the main ideas. Support is present, although it may be limited or rather general. The writing is characterized by • an easily identifiable purpose. • clear main idea(s) • supporting details that are relevant, but may be overly general or limited in places; when appropriate, resources are used to provide accurate support. • a topic that is explored/explained, although developmental details may occasionally be out of balance with the main idea(s); some connections and insights may be present. • content and selected details that are relevant, but perhaps not consistently well chosen for audience and purpose.
3 The reader can understand the main ideas, although they may be overly broad or simplistic, and the results may not be effective. Supporting detail is often limited, insubstantial, overly general, or occasionally slightly off-topic. The writing is characterized by • an easily identifiable purpose and main idea(s). • predictable or overly-obvious main ideas or plot; conclusions or main points seem to echo observations heard elsewhere. • support that is attempted; but developmental details that are often limited in scope, uneven, somewhat off-topic, predictable, or overly general. • details that may not be well-grounded in credible resources; they may be based on clichés, stereotypes or questionable sources of information. • difficulties when moving from general observations to specifics.	**2** Main ideas and purpose are somewhat unclear or development is attempted but minimal. The writing is characterized by • a purpose and main idea(s) that may require extensive inferences by the reader. • minimal development; insufficient details. • irrelevant details that clutter the text. • extensive repetition of detail.	**1** The writing lacks a central idea or purpose. The writing is characterized by • ideas that are extremely limited or simply unclear. • attempts at development that are minimal or non-existent; the paper is too short to demonstrate the development of an idea.

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ORGANIZATION

6 The organization enhances the central idea(s) and its development. The order and structure are compelling and move the reader through the text easily. The writing is characterized by • effective, perhaps creative, sequencing; the organizational structure fits the topic, and the writing is easy to follow. • a strong, inviting beginning that draws the reader in and a strong satisfying sense of resolution or closure. • smooth, effective transitions among all elements (sentences, paragraphs, and ideas). • details that fit where placed.	**5** The organization enhances the central idea(s) and its development. The order and structure are strong and move the reader through the text. The writing is characterized by. • effective sequencing; the organizational structure fits the topic, and the writing is easy to follow. • an inviting beginning that draws the reader in and a satisfying sense of resolution or closure. • smooth, effective transitions among all elements (sentences, paragraphs, and ideas). • details that fit where placed.	**4** Organization is clear and coherent. Order and structure are present, but may seem formulaic. The writing is characterized by • clear sequencing. • an organization that may be predictable. • a recognizable, developed beginning that may not be particularly inviting; a developed conclusion that may lack subtlety. • a body that is easy to follow with details that fit where placed. • transitions that may be stilted or formulaic. • organization which helps the reader, despite some weaknesses.
3 An attempt has been made to organize the writing; however, the overall structure is inconsistent or skeletal. The writing is characterized by • attempts at sequencing, but the order or the relationship among ideas may occasionally be unclear. • a beginning and an ending which, although present, are either undeveloped or too obvious (e.g. "My topic is...", "These are all the reasons that...") • transitions that sometimes work. The same few transitional devices (e.g., coordinating conjunctions, numbering, etc.) may be overused. • a structure that is skeletal or too rigid. • placement of details that may not always be effective. • organization which lapses in some places, but helps the reader in others.	**2** The writing lacks a clear organizational structure. An occasional organizational device is discernible; however, the writing is either difficult to follow and the reader has to reread substantial portions, or the piece is simply too short to demonstrate organizational skills. The writing is characterized by • some attempts at sequencing, but the order or the relationship among ideas is frequently unclear. • a missing or extremely undeveloped beginning, body, and/or ending. • a lack of transitions, or when present, ineffective or overused. • a lack of an effective organizational structure. • details that seem to be randomly placed, leaving the reader frequently confused.	**1** The writing lacks coherence; organization seems haphazard and disjointed. Even after rereading, the reader remains confused. The writing is characterized by • a lack of effective sequencing. • a failure to provide an identifiable beginning, body and/or ending. • a lack of transitions. • pacing that is consistently awkward; the reader feels either mired down in trivia or rushed along too rapidly. • a lack of organization which ultimately obscures or distorts the main point.

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VOICE

6 The writer has chosen a voice appropriate for the topic, purpose and audience. The writer seems deeply committed to the topic, and there is an exceptional sense of "writing to be read." The writing is expressive, engaging, or sincere. The writing is characterized by • an effective level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice, while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively, or interesting. Technical writing may require greater distance.). • an exceptionally strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction. • a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.	**5** The writer has chosen a voice appropriate for the topic, purpose, and audience. The writer seems committed to the topic, and there is a sense of "writing to be read." The writing is expressive, engaging or sincere. The writing is characterized by • an appropriate level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively or interesting. Technical writing may require greater distance.). • a strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction. • a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.	**4** A voice is present. The writer demonstrates commitment to the topic, and there may be a sense of "writing to be read." In places, the writing is expressive, engaging, or sincere. The writing is characterized by • a questionable or inconsistent level of closeness to or distance from the audience. • a sense of audience; the writer seems to be aware of the reader but has not consistently employed an appropriate voice. The reader may glimpse the writer behind the words and feel a sense of interaction in places. • liveliness, sincerity, or humor when appropriate; however, at times the writing may be either inappropriately casual or personal, or inappropriately formal and stiff.
3 The writer's commitment to the topic seems inconsistent. A sense of the writer may emerge at times; however, the voice is either inappropriately personal or inappropriately impersonal. The writing is characterized by • a limited sense of audience; the writer's awareness of the reader is unclear. • an occasional sense of the writer behind the words; however, the voice may shift or disappear a line or two later and the writing become somewhat mechanical. • a limited ability to shift to a more objective voice when necessary.	**2** The writing provides little sense of involvement or commitment. There is no evidence that the writer has chosen a suitable voice. The writing is characterized by • little engagement of the writer; the writing tends to be largely flat, lifeless, stiff, or mechanical. • a voice that is likely to be overly informal and personal. • a lack of audience awareness; there is little sense of "writing to be read." • little or no hint of the writer behind the words. There is rarely a sense of interaction between reader and writer.	**1** The writing seems to lack a sense of involvement or commitment. The writing is characterized by • no engagement of the writer; the writing is flat and lifeless. • a lack of audience awareness; there is no sense of "writing to be read." • no hint of the writer behind the words. There is no sense of interaction between writer and reader; the writing does not involve or engage the reader.

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WORD CHOICE

6	5	4
Words convey the intended message in an exceptionally interesting, precise, and natural way appropriate to audience and purpose. The writer employs a rich, broad range of words which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by • accurate, strong, specific words; powerful words energize the writing. • fresh, original expression; slang, if used seems purposeful and is effective. • vocabulary that is striking and varied, but that is natural and not overdone. • ordinary words used in an unusual way. • words that evoke strong images; figurative language may be used.	Words convey the intended message in an interesting, precise, and natural way appropriate to audience and purpose. The writer employs a broad range of words which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by • accurate, specific words; word choices energize the writing. • fresh, vivid expression; slang, if used, seems purposeful and is effective. • vocabulary that may be striking and varied, but that is natural and not overdone. • ordinary words used in an unusual way. • words that evoke clear images; figurative language may be used.	Words effectively convey the intended message. The writer employs a variety of words that are functional and appropriate to audience and purpose. The writing a characterized by • words that work but do not particularly energize the writing. • expression that is functional; however, slang, if used, does not seem purposeful and is not particularly effective. • attempts at colorful language that may occasionally seem overdone. • occasional overuse of technical language or jargon. • rare experiments with language; however, the writing may have some fine moments and generally avoids clichés.
3	**2**	**1**
Language is quite ordinary, lacking interest, precision and variety, or may be inappropriate to audience and purpose in places. The writer does not employ a variety of words, producing a sort of "generic" paper filled with familiar words and phrases. The writing is characterized by • words that work, but that rarely capture the reader's interest. • expression that seems mundane and general; slang, if used, does not seem purposeful and is not effective. • attempts at colorful language that seem overdone or forced. • words that are accurate for the most part, although misused words may occasionally appear, technical language or jargon may be overused or inappropriately used. • reliance on clichés and overused expressions.	Language is monotonous and/or misused, detracting from the meaning and impact. The writing is characterized by • words that are colorless, flat or imprecise. • monotonous repetition or overwhelming reliance on worn expressions that repeatedly distract from the message. • images that are fuzzy or absent altogether.	The writing shows an extremely limited vocabulary or is so filled with misuses of words that the meaning is obscured. Only the most general kind of message is communicated because of vague or imprecise language. The writing is characterized by • general, vague words that fail to communicate. • an extremely limited range of words. • words that simply do not fit the text; they seem imprecise, inadequate, or just plain wrong.

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SENTENCE FLUENCY

6 The writing has an effective flow and rhythm. Sentences show a high degree of craftsmanship, with consistently strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by • a natural, fluent sound; it glides along with one sentence flowing effortlessly into the next. • extensive variation in sentence structure, length, and beginnings that add interest to the text. • sentence structure that enhances meaning by drawing attention to key ideas or reinforcing relationships among ideas. • varied sentence patterns that create an effective combination of power and grace. • strong control over sentence structure; fragments, if used at all, work well. • stylistic control; dialogue, if used, sounds natural.	**5** The writing has an easy flow and rhythm. Sentences are carefully crafted, with strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by • a natural, fluent sound; it glides along with one sentence flowing into the next. • variation in sentence structure, length, and beginnings that add interest to the text. • sentence structure that enhances meaning. • control over sentence structure; fragments, if used at all, work well. • stylistic control; dialogue, if used sounds natural.	**4** The writing flows; however, connections between phrases or sentences may be less than fluid. Sentence patterns are somewhat varied, contributing to ease in oral reading. The writing is characterized by • a natural sound; the reader can move easily through the piece, although it may lack a certain rhythm and grace. • some repeated patterns of sentence structure, length, and beginnings that may detract somewhat from overall impact. • strong control over simple sentence structures, but variable control over more complex sentences; fragments, if present, are usually effective. • occasional lapses in stylistic control; dialogue, if used, sounds natural for the most part, but may at times sound stilted or unnatural.
3 The writing tends to be mechanical rather than fluid. Occasional awkward constructions may force the reader to slow down or reread. The writing is characterized by • some passages that invite fluid oral reading; however, others do not. • some variety in sentences structure, length, and beginnings, although the writer falls into repetitive sentence patterns. • good control over simple sentence structures, but little control over more complex sentences; fragments, if present, may not be effective. • sentences which, although functional, lack energy. • lapses in stylistic control; dialogue, if used, may sound stilted or unnatural.	**2** The writing tends to be either choppy or rambling. Awkward constructions often force the reader to slow down or reread. The writing is characterized by • significant portions of the text that are difficult to follow or read aloud. • sentence patterns that are monotonous (e.g., subject-verb or subject-verb-object). • a significant number of awkward, choppy, or rambling constructions.	**1** The writing is difficult to follow or to read aloud. Sentences tend to be incomplete, rambling, or very awkward. The writing is characterized by • text that does not invite—and may not even permit—smooth oral reading. • confusing word order that is often jarring and irregular. • sentence structure that frequently obscures meaning. • sentences that are disjointed, confusing, or rambling.

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CONVENTIONS

6	5	4
The writing demonstrates exceptionally strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that the reader can easily skim right over them unless specifically searching for them. The writing is characterized by • strong control of conventions; manipulation of conventions may occur for stylistic effect. • strong, effective use of punctuation that guides the reader through the text. • correct spelling, even of more difficult words. • paragraph breaks that reinforce the organizational structure. • correct grammar and usage that contribute to clarity and style. • skill in using a wide range of conventions in a sufficiently long and complex piece. • little or no need for editing.	The writing demonstrates strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that they do not impede readability. The writing is characterized by • strong control of conventions. • effective use of punctuation that guides the reader through the text. • correct spelling, even of more difficult words. • paragraph breaks that reinforce the organizational structure. • correct capitalization; errors, if any, are minor. • correct grammar and usage that contribute to clarity and style. • skill in using a wide range of conventions in a sufficiently long and complex piece. • little need for editing.	The writing demonstrates control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Minor errors, while perhaps noticeable, do not impede readability. The writing is characterized by • control over conventions used, although a wide range is not demonstrated. • correct end-of-sentence punctuation, internal punctuation may sometimes be incorrect. • spelling that is usually correct, especially on common words. • basically sound paragraph breaks that reinforce the organizational structure. • correct capitalization; errors, if any, are minor. • occasional lapses in correct grammar and usage; problems are not severe enough to distort meaning or confuse the reader. • moderate need for editing.
3	**2**	**1**
The writing demonstrates limited control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Errors begin to impede readability. The writing is characterized by • some control over basic conventions; the text may be too simple to reveal mastery. • end-of-sentence punctuation that is usually correct; however, internal punctuation contains frequent errors. • spelling errors that distract the reader; misspelling of common words occurs. • paragraphs that sometimes run together or begin at ineffective places. • capitalization errors. • errors in grammar and usage that do not block meaning but do distract the reader. • significant need for editing.	The writing demonstrates little control of standard writing conventions. Frequent, significant errors impede readability. The writing is characterized by • little control over basic conventions. • many end-of-sentence punctuation errors; internal punctuation contains frequent errors. • spelling errors that frequently distract the reader; misspelling of common words often occurs. • paragraphs that often run together or begin in ineffective places. • capitalization that is inconsistent or often incorrect. • errors in grammar and usage that interfere with readability and meaning. • substantial need for editing.	Numerous errors in usage, spelling, capitalization, and punctuation repeatedly distract the reader and make the text difficult to read. In fact, the severity and frequency of errors are so overwhelming that the reader finds it difficult to focus on the message and must reread for meaning. The writing is characterized by • very limited skill in using conventions. • basic punctuation (including end-of-sentence punctuation) that tends to be omitted, haphazard, or incorrect. • frequent spelling errors that significantly impair readability. • paragraph breaks that may be highly irregular or so frequent (every sentence) that they bear no relation to the organization of the text. • capitalization that appears to be random. • a need for extensive editing.

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APPENDIX C
AIMS Reference Sheet

Area

Triangle	$\frac{1}{2}bh$
Rectangle	lw
Trapezoid	$\frac{1}{2}h(b_1 + b_2)$
Parallelogram	bh
Circle	πr^2

Key

b	= base	d	= diameter
h	= height	r	= radius
l	= length		
w	= width		
ℓ	= slant height		

Use 3.14 or $\frac{22}{7}$ for π

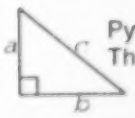
Circumference = $\pi d = 2\pi r$

Volume

Right Circular Cone	$\frac{1}{3}\pi r^2 h$
Square Pyramid	$\frac{1}{3}lwh$
Sphere	$\frac{4}{3}\pi r^3$
Right Circular Cylinder	$\pi r^2 h$
Rectangular Solid	lwh

Total Surface Area

$\frac{1}{2}(2\pi r)l + \pi r^2 = \pi rl + \pi r^2$
$4(\frac{1}{2}l\ell) + l^2 = 2l\ell + l^2$
$4\pi r^2$
$2\pi rh + 2\pi r^2$
$2(lw) + 2(hw) + 2(lh)$



Pythagorean Theorem $c^2 = a^2 + b^2$

Distance between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$\sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$$

Slope-intercept form of an equation Of a line, where m = slope and b = the y-intercept:

$$y = mx + b$$

Midpoint between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2}\right)$$

Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Slope between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

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TRIGONOMETRIC RATIOS			
Angle	sin	cos	tan
0°	0.0000	1.0000	0.0000
30°	0.5000	0.8660	0.5774
45°	0.7071	0.7071	1.0000
60°	0.8660	0.5000	1.7321
90°	1.0000	0.0000	∞

$$\sin A = \frac{opp}{hyp} \qquad \cos A = \frac{adj}{hyp} \qquad \tan A = \frac{opp}{adj}$$

Postulates:

Side-Side-Side (SSS)
Two triangles are congruent if the sides of one triangle are congruent to the sides of the other triangle.

Side-Angle-Side (SAS)
Two triangles are congruent if two sides and the included angle of one triangle are congruent to two sides and the included angle of the other triangle.

Angle-Side-Angle (ASA)
Two triangles are congruent if two angles and the included side of one triangle are congruent to two angles and the included side of the other triangle.

Theorems:

If two parallel lines are cut by a transversal, then each pair of alternate exterior angles are congruent.

If two parallel lines are cut by a transversal, then each pair of alternate interior angles are congruent.

If two parallel lines are cut by a transversal, then each pair of corresponding angles are congruent.

If two parallel lines are cut by a transversal, then each pair of interior angles on the same side of the transversal are supplementary.

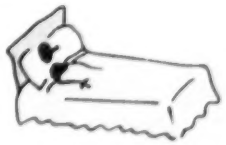
If two parallel lines are cut by a transversal, then each pair of exterior angles on the same side of the transversal are supplementary.

APPENDIX D

Test-Taking Strategies

A Review

(You have heard these before, but they <u>can</u> make a difference



- **Be physically prepared**. Get plenty of rest the night before. On the day of the test, **eat a healthy breakfast**.

- **Be mentally prepared**. Try to relax and do your best. It is not unusual to feel nervous about tests. The key is being well prepared. Then you can view the test as an opportunity to truly show what you know and are able to do.

- **Listen to directions** as the teacher explains them. **Ask** about any directions you do not understand.

- **Read the directions carefully**.

- **Look for key words** that will help you identify what the question is asking you to do.

- **Take your time** and work at your own pace. AIMS is not a timed test, but you do want to use your time well.

- **Move on** to the next item if you are stuck. **Return** to it later.

- **Make educated guesses** if you are unsure of an answer. First eliminate choices that are obviously incorrect, then logically select from the remaining choices.

- **Review your answers** when you are finished. **Re-read** written responses to check that they are clear.

NOTES

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